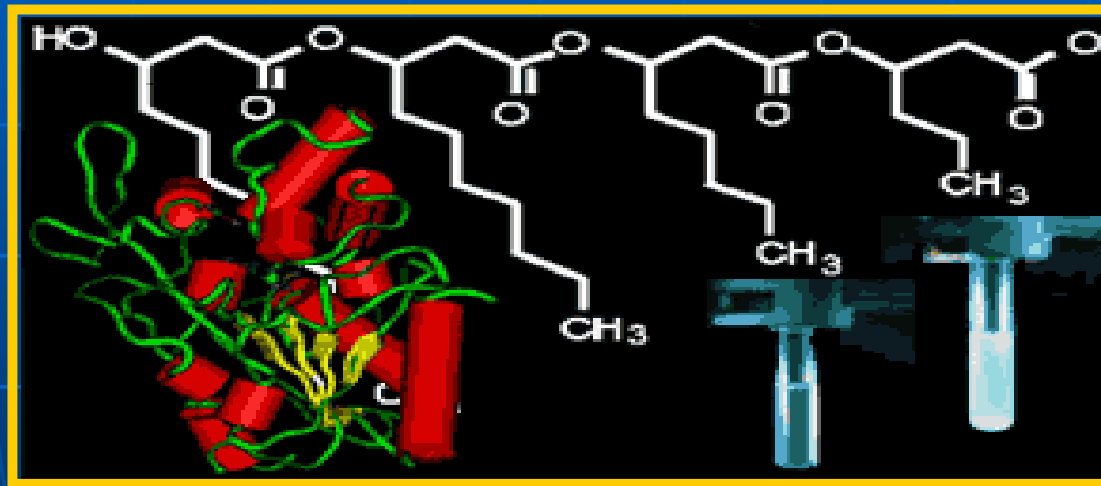


Interagency Conference on Metabolic Engineering



February 3, 2005



Brent Erickson
Vice President, Industrial and Environmental
Section

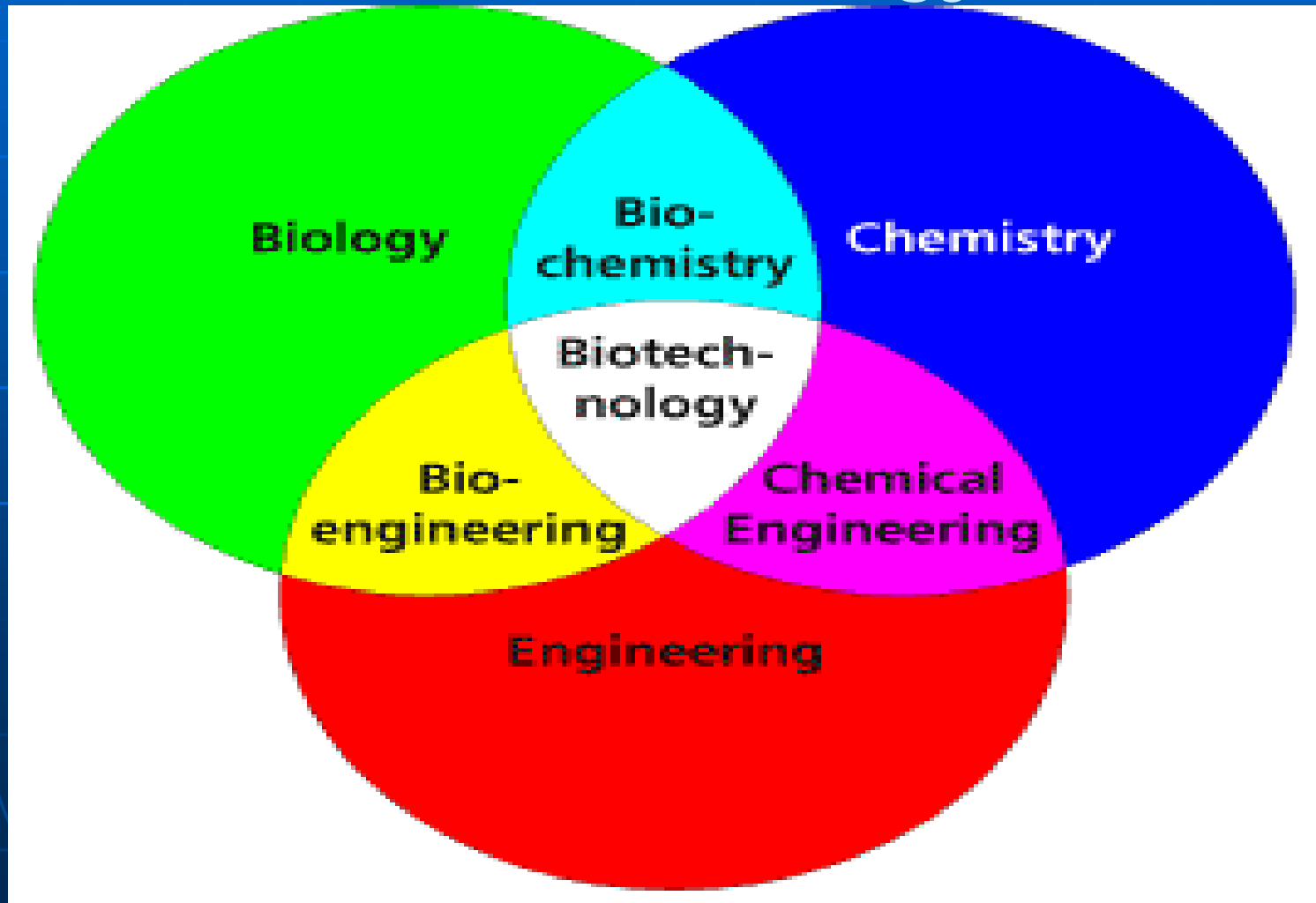
Biotechnology Industry Organization (BIO)

- Over 1,000 members
- in all 50 states
- and 38 nations
- Mostly healthcare companies
- But all areas of biotechnology represented
- Main office in D.C.
- Satellite office in New York
- 36 state affiliate organizations

Some of BIO's Industrial and Environmental Section (IES) Members

- DuPont
- Dow
- Cargill-Dow
- Genencor
- Diversa
- Codexis
- Metabolix
- Bayer
- Eastman Chemical
- Cargill
- Novozymes
- DSM
- Monsanto
- Pure Vision
- CEA Inc.
- Nexia
- Aventis
- BASF
- Rohm and Haas
- National labs

Why We Call it Industrial (white) Biotechnology



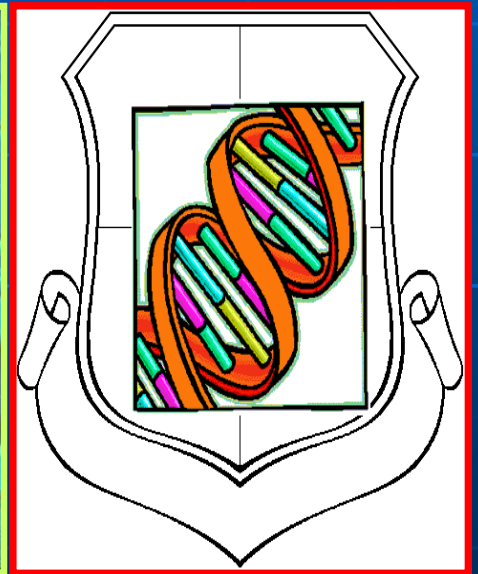
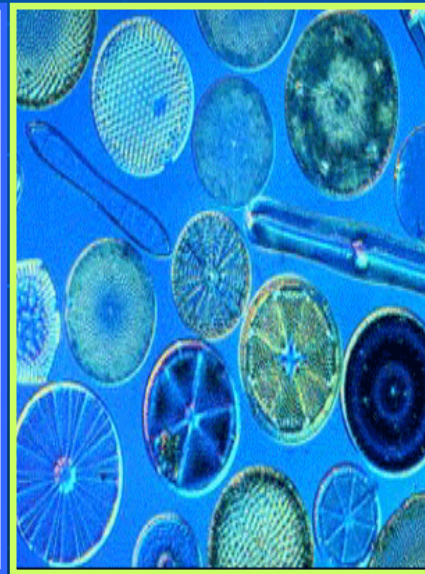
Industrial Biotech

The Third Wave in Biotechnology



Industrial Biotechnology

Broad Range of Applications



Exploring Biotechnology

Opportunities for the Department of Defense

(Released from the Director of Net Assessment)

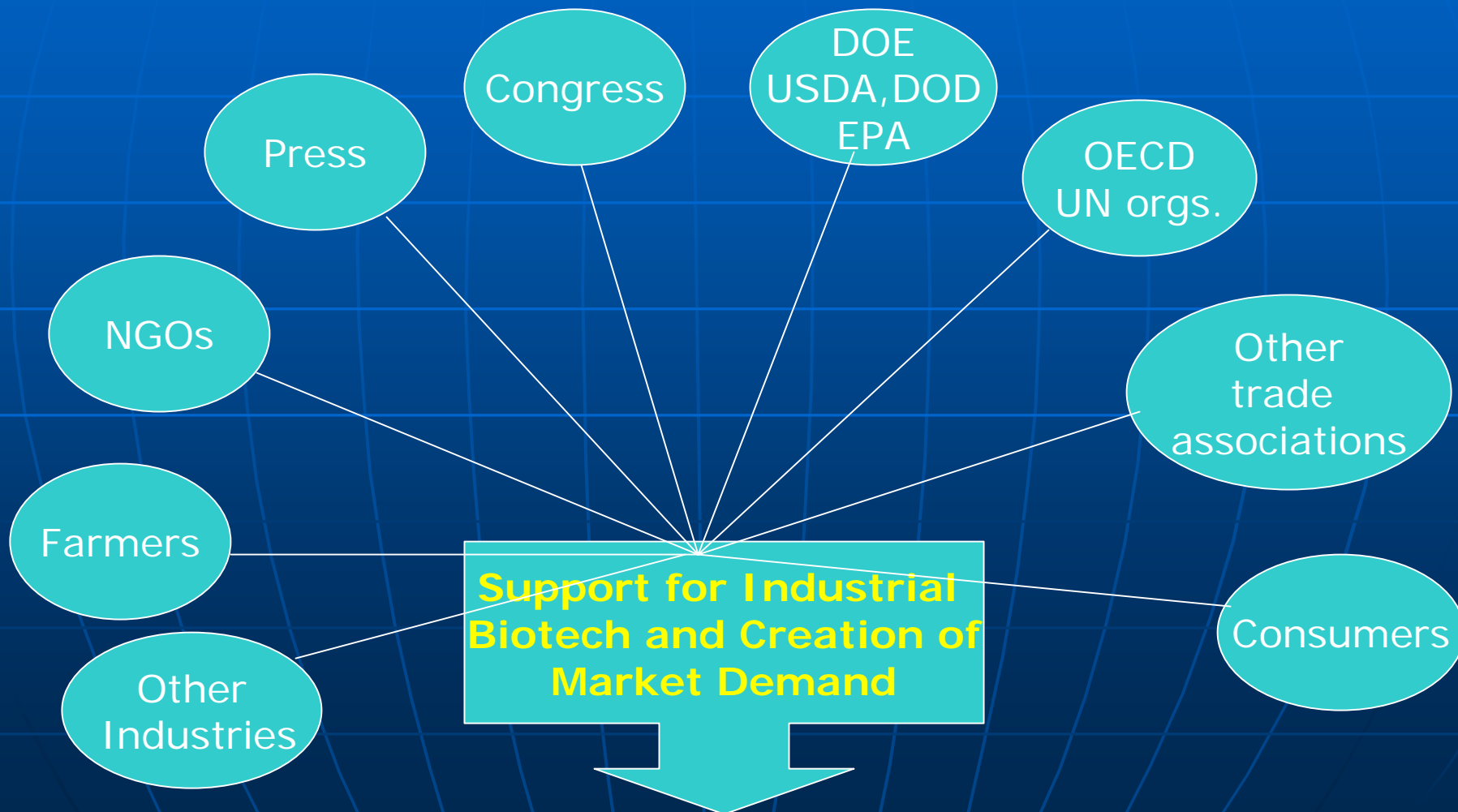
Critical Review and
Technology Assessment (CR/TA) Report

January 31, 2002



IATAC

Nodes of BIO IES Activity and Areas of Focus



Ongoing Activities

■ Media

1. Targeting agriculture pubs, rural newspaper and radio audiences – on biomass issues
2. Targeting Science magazines (Discover, Science News, Scientific American) - innovation and technology
3. Placing Op-eds on sustainable production of ethanol from cellulose
4. Targeting T.V. & newspapers for business and technology stories on industrial biotech

Ongoing Activities Cont.

■ Conferences and Meetings

1. Security Analyst and Investor Briefing - New York - Feb. 22, 2005
2. World Congress on Industrial Biotech and Bioprocessing – Orlando, FL- April 20-22, 2005
3. I&E track BIO 2004 – Philadelphia- June 2005
4. CTO Summit October 2004 - Washington, DC
5. Pacific Rim summit on Industrial Biotech and Bioenergy-Hawaii early 2006

Current Activities Cont.

- Government relations
- 1. Lobbying--to get energy bill passed - biorefineries
- 2. Advocacy--USDA on biobased products rulemaking
- 3. Lobbying--DOE & Congress on biorefinery and chemical platform issues and funding
- 4. Provided material to presidential campaigns
- 5. Working with EPA on pollution prevention
- 6. Participate in Dept. of Defense working group on biotech

Current Activities Cont.

■ Special Reports

1. Conducted a study on the pollution prevention potential for industrial biotech --published in June 2004
2. Commissioned a review report on federal regulations governing use and handling of GMMs (not released)
3. Commissioned a report on the sustainable production and harvesting of ag biomass (2005 release)

Current Activities Cont.

- OECD Taskforce on biotechnology and Industrial Sustainability
 1. Working with the OECD to shape agenda of the taskforce so they mirror US interests.

Notable Events in 2004

- First commercial production of bio-ethanol from cellulosic biomass – Iogen --Canada
- Deal between Pfizer—Codexis—Lonza to use industrial biotech to make pharmaceuticals
- DuPont announcement to build PDO biorefinery in Tennessee

Strategic Objectives for 2005

- Increase Awareness of Industrial Biotech
 - Media
 - Public
 - Investors & Analysts
 - Policy makers
 - DOE, USDA, Congress, DOD, DHS
 - Chemical Industry
 - NGO Community

Strategic Objectives for 2005

- **Create Incentives to Level Playing Field**
 - Energy bill-renewable fuels standard
 - Direct funding for biorefineries
 - Production tax credits
 - R&D tax credits
 - Emissions Credits & Trading (GHG, Air Pollution)
 - Pollution prevention regulatory incentives

Strategic Objectives for 2005

- Create Market Pull for Industrial Bioproducts and Biofuels
 - Biobased purchasing requirement
 - Biorefineries
 - Nanotechnology
 - Chemical industry

Strategic Objectives for 2005

■ International Outreach & Integration

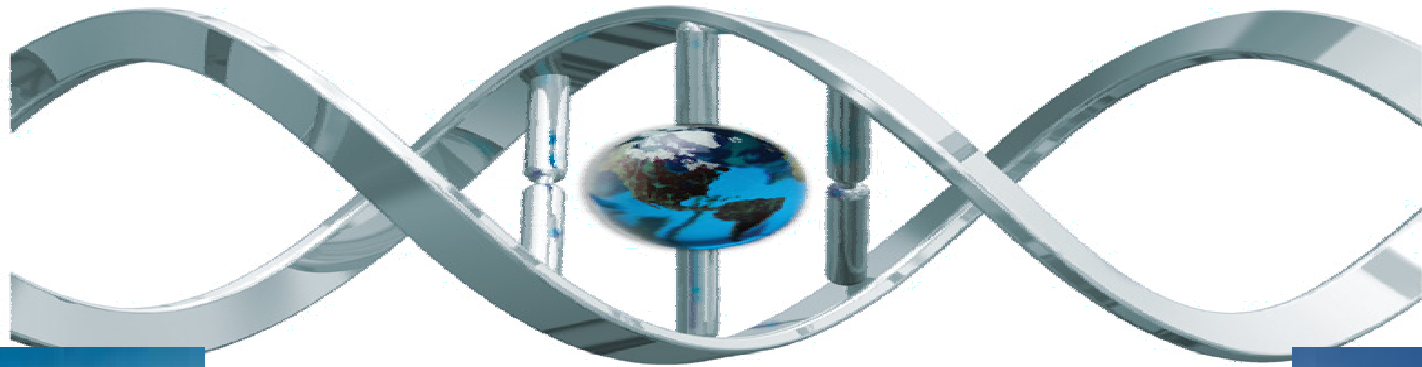
- EuropaBio
- CEFIC
- OECD
- IEA thru DOE -- BIO X
- UN
 - UNIDO
 - UNEP
 - UNCTAG

Strategic Objective

- Engage Stakeholders in Dialogue on Ethical & Environmental Issues
 - Farmers
 - Commodity Grain Groups
 - Environmental NGO's

The World Congress on Industrial Biotechnology and Bioprocessing

WWW.BIO.org/worldcongress



Disney Epcot Center

Orlando, Florida
April 20 - 22, 2005



Swan and Dolphin Hotel